

## Rangeland Seeding in Lower Kittitas County

There are numerous reasons why a landowner considers seeding, but a primary consideration before spending any money should be whether conditions/practices that led to degradation have been addressed. Often, the conditions that prompt consideration of artificial regeneration (seeding) are merely a symptom of a more serious management problem. If you once had good pasture and now don't, or you recently purchased rangeland property that is in poor condition, consider what has happened on that ground in the last several years. Newly established vegetation won't last unless the conditions that led to deterioration are addressed, such as continuous use by livestock or heavy off-road-vehicle use. If there is a remnant population of desirable plants simply altering management practices may be sufficient for recovery. Bunchgrass ecosystems are more susceptible to grazing damage than most other types, and graziers should strive to graze during the May-June critical period only 1 year in 3. Excessive stocking rates and season-long livestock grazing are the two primary causes of rangeland degradation. Livestock use can be beneficial for ecosystem health, but it must be managed toward that goal by observing appropriate stocking rates (leave at least half the plant), avoiding May-June use at least one year out of three (rotate the season of use), and grazing an individual pasture no more than half the growing season.

### Goals

Goals for revegetation of degraded rangeland are diverse. High-quality forage for livestock, shrubs for sagebrush-obligate wildlife species, tall grass for ground-nesting birds, lots of forbs (wildflowers) for a beautiful spring view, or easily established, deep-rooting grasses for soil stabilization in disturbed areas are just some of the potential goals for managing a piece of property.



Figure 1.  
Successful  
dryland  
pasture  
seeding.  
Photo by  
Tipton Hudson

### Seeding principles

Select seed that is well-suited to your site and your goals. A seed guide from any of the major seed dealers is a good place to start.

Control weeds and undesirable vegetation prior to seeding. Consider the timing necessary to accomplish this. Where there is a sufficient remnant population of desirable perennial plants, it may be advantageous to use selective herbicides to kill the undesirables and interseed into the existing plant community.

Most seedings on non-irrigated land should occur in the fall (October 15-first snowfall). Fall seedings are typically more successful on non-irrigated acreage in the Intermountain West because seedlings are able to take advantage of fall and winter moisture, and soils dry out relatively quickly in the spring depending on unpredictable spring precipitation.

Grass seed must contact the soil to germinate. Usually harrowing or raking will expose enough soil to accomplish this. Soil disturbance is not necessary following a fire. Once applied, the seed also needs to have ~1/8" soil coverage. A culti-packer or roller works best, but going over the field again with a harrow or drag works as well.

Where enough slope exists to allow water runoff and soil erosion to occur, and where there is little remaining rooted vegetation to stabilize soil, it may be necessary to artificially create enough surface roughness to generate microsites for germination and physical barriers for water that may try to carry your seed away. Raking or harrowing with the contours of the slope will facilitate this.

Seeds have several preferences toward the type of ground they are successful in. These recommendations are ideal conditions and cannot be met in all circumstances.

1. Seeds must have direct contact with bare mineral soil. If they are sitting on top of dead plant material seeds will either dry out or be consumed by birds and rodents. This can usually be accomplished by a field entry with a harrow or pasture drag. If this is a pasture that has been plowed, disked, and rolled, the soil should be firm; fluffed soil from excessive tillage won't provide enough stability for the roots and is susceptible to wind and water erosion. Tillage is not recommended for low rainfall sites. Seeding into unplowed but harrowed or raked soil is preferable to avoid soil erosion and mass germination of weed seeds that are already in the soil seed bank.
2. IF TILLAGE IS USED TO PREPARE THE SEEDBED, Topsoil (first ½-1") should be well-pulverized and mollified. This means loose, not cloddy, but not so powdery loose that crusting takes place. Crusting will prevent seedling emergence.
3. The seed site should be free of invasive plants. The presence of annual weeds or perennials that are competing for the same resources as the seedling is the most common and significant obstacle to establishment. This doesn't mean eliminating all live vegetation on the entire seeding area, as dryland areas typically have spaces between plants, but reseeding is usually done where all or part of the existing vegetation is unwanted and some level and form of vegetation control is beneficial. This is most effectively accomplished using selective herbicides or controlled grazing on annual grasses.
4. The area should be free of the seed of competitive species. This typically means ensuring that the existing undesirable vegetation doesn't produce seed in the growing season prior to planting. If this is a concern, it may be beneficial to summer fallow the site: kill the undesirable vegetation in the fall and/or spring and give the site one full growing season to see what comes up. If you don't want it, kill it, and plant the following fall with a better chance of success.
5. There should be a moderate amount of mulch or plant residue on or in the soil surface. (Don't scrape a site clean with a tractor!) With a fall planting, there is generally a sufficient amount of dead plant material from this year's growing season that is incorporated through the winter. (Adapted from Kingery, 1997)

If seeding is for pasture forage, do not graze until the following year, and then only if plants cannot be pulled by hand. If you can pull the grass plants out, roots and all, they are not ready for grazing!

There are two methods for seeding: broadcast and direct/drilled. Broadcast seeding is easier on rough terrain where there are rocks, slopes, uneven ground, other vegetation, but has a lower success rate than drilled seed. If broadcast seeding, consider dragging something like a harrow over the site to scarify the soil surface and provide opportunity for seeds to contact mineral soil. Grain drills generally do not work except in deeper, rock-free soils, but a rangeland drill is designed to work around these obstacles and dramatically increases the success rate (germination and establishment of seeds).

\*\*Good choice for value and ease of establishment

\$ Expensive seed

## Dryland grass species for Lower Kittitas County (do not use on irrigated pasture)

- Bluebunch wheatgrass (\$) – an excellent native species adapted to low rainfall areas that is highly palatable; seed is more expensive than introduced species; exercise care in grazing to avoid late spring damage
- Basin wildrye – Very large native plant that once occupied much of the Yakima floodplain; highly salt-tolerant and has an excellent root system; good for wildlife cover as well as livestock
- \*\*Crested wheatgrass (Hycrest or Nordan)– easy to establish, short-lived if not grazed
- \*\*Hard fescue – used in roadcuts to stabilize soil; easy to establish and tremendous root system.
- \*\*Intermediate wheatgrass – a good introduced grass for alkaline soils; relatively unpalatable
- \*\*Siberian wheatgrass (Vavilov) – introduced, short bunchgrass that does well above 7” rainfall zones
- Slender wheatgrass – relatively unpalatable but produces a vigorous root system; good for reclamation
- Thickspike wheatgrass (\$) – a very tough grass that is good for shallow, rocky soils; tolerates grazing well; more palatable than crested wheatgrass



Figure 2. Bluebunch wheatgrass plant. Photo by Tip Hudson

### Seed dealers

Old Mill Country Store: (509) 925-5397

Midstate Co-op: (509) 925-3378

Arnold's Ranch & Home: 509-925-6181

Cle Elum Farm & Home: 509-674-7104

Kern Company: 509-968-3643

Smith Kem: 509-925-5977

BFI Native Seed (Jerry Benson): (509) 765-6348

Rainier Seed: (800) 828-8873

### Seeding contractors

BFI Native Seed: (509) 765-6348

Weed Whackerz (Brett Graham): 509-899-1040

Clean Image Services: 509-925-2929

#### **No-till pasture drill available for rent**

The South Yakima Conservation District has a no-till pasture drill available at a rate of \$2/acre with a \$100 refundable deposit. It is a 7' rancher model with a hitch assembly – no trailer required – and requires a ~50-horse tractor. The drill uses a sponge metering system and has one seed bin. Interested customers can contact the SYCD at (509) 837-7911 to schedule usage. Yakima County residents have first priority, so call well in advance of anticipated use. Late summer/early fall are good times to interseed existing grass stands or to establish a new stand in dead turf (irrigated pastures). The drill will also work on rangeland areas without much exposed rock or dense sagebrush. Dryland seedings should be done after plants are dormant, usually after October 15.

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